JUSTIFICATION FOR SOLE SOURCE or BRAND NAME SPECIFIED
(Simplified Acquisitions <$150K)

The service or material listed on N0016116RC16711 is sole source and competition
(Document Number) (Select which is applicable (sole source or brand name))
is precluded for reasons indicated below. There are no substitutes available for this material or service.

**Restricted to the following source.** Provide original manufacturer or recommended sources that provide brand name. If a sole source manufacturer distributes via dealers, *ALSO* provide dealer information.

Manufacturer: YSI Inc., Systems & Services Division

Manufacturer POC: Tom Wazniak;+1 (301) 518-0720

Manufacturer Phone #: (727) 565-2201

Mfr. Address: Ysi Inc., Systems & Services Division
9843 18th Street North, Suite 1200
St. Petersburg, FL 33716
(City, State, Zip)

Dealer / Rep / Recommended Source: Ysi Inc., Systems & Services Division

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- Description of the item or service required, the estimated cost, and required delivery date.

The U.S. Naval Academy (USNA) Oceanography Department Severn River Watershed Observatory (SRWO) is an estuarine observation and monitoring network being implemented in the Severn River. The system consists of fixed/semi-fixed sensor arrays, profilers, and meteorological stations, augmented by autonomous vehicles and other sensing platforms, designed to characterize the physical, chemical, biological, acoustic, and optical properties of the littoral environment. Phase I of USNA Oceanography Department Severn River Watershed Observatory implementation consisted of a fixed, main hub (N1) on the Severn River at the USNA Hendrix Oceanography Laboratory (HOL). This forms the backbone of the USNA Oceanography Department Severn River Watershed Observatory network and consists of weather sensors (temperature, pressure, humidity, wind speed/direction), water column sensors (2 minimum, temperature, salinity, pressure, dissolved oxygen (DO)*, pH*, turbidity*; * = options), a high resolution camera, an acoustic Doppler current profiler (ADCP). The main hub at HOL (N1) serves as a central node for the Watershed Observatory with data being stored in database format on a main server. This current proposal is for the second node (N2), which will be positioned across the Severn River from HOL. This node will incorporate identical instrumentation to that at the first node, except without a high resolution camera. Having identical instrumentation at two locations on either side of the river will provide a better picture

of oceanographic conditions in the Severn; data which will be instrumental in midshipman and faculty research, as well as outreach and STEM education. The second node will have radio telemetry to communicate with the first node, which will require some updated hardware, budgeted for in this request, to live stream data back to the EDMAPS network. Since the system will be deployed for continuos monitoring in shallow-estuarine environments all water column sensors should be suitable for use in brackish waters and must come equipped with anti-fouling technologies and a depth rating of 10 m or greater. Data sampling rate should be 4Hz or greater. Sondes/sensors should be modular, allowing for re-configuration, sonsor/sonde changes, and calibration in the laboratory without factory level services. Sensors, sondes, and instrumentation should be easily integrated via a single software platform and compatible with exisitng instrumentation and equipment. Data collected by the sensor suiote should be exportable and compatible with non-proprietary file types suitable for use with commercial software packages like MATLAB, MS Excel. All sensors and instrumentation should suitable for long-term deployement in a coastal environment. Keeping these instruments identical to those already installed at Hendrix ensures comparable datastreams.
Initial project funding for the instrument is limited, and the desired delivery date is within 30 days of order. The supplier must be willing and able to provide technical support and documentation during initial system deployment and future development.

- Specific characteristics of the material or service that limit the availability to a sole source / brand name (unique features, function of the item, etc.). Describe in detail why only this suggested source / brand name can furnish the requirements to the exclusion of other sources / brands.

YSI/Xylem is an industry leader in coastal water quality monitoring equipment and environmental monitoring technologies. The USNA Oceanography Department (and other USNA Departments) currently uses YSI EXO Series water qualtiy monitoring sondes and Vaisala meterological sensors in teaching and research. The EXO 2 is the only water-quality monitoring sonde on the market that has anti-fouling technology, is modular and allows for easy, laboratory level swaping on YSI sensors. This will allow USNA to use exisiting YSI sondes in any new EXOs purchased. YSI/Xylem provides a sole source for a complete compatible observation system consisting of water quality sensors, meteorologial sensors, acoustic Doppler current meters, and high-resoltuion optical sensors. All these systems can be intergrated through and single data logger and operated from a single computer. The data collected is of file types suitable for use with other commercial software currently available at USNA. YSI/Xylem currently provides systems like the one requested to USNA research partners such as USGS, Aberdeen Proving Grounds, and DNR. The Xylem/YSI Oceanographic observatory system requested includes:
1. Water Quality monitoring instrumentation and accessories with anti-fouling protection (YSI EXO 2 multi-parameter water quality monitoring sondes (x2) with sensors for monitoring pressure, conductivity, pH, turbidity, and dissolved oxygen).
2. Current Velocity and non-directional Wave measurement instrumentation (SonTek SL500 side-looking real-time acoustic Doppler current meter)
3. Meteorological instrumentation (Vaisala 202133 All Digital Metrological Sensor Suite)
4. High-Resolution Camera (Campbell SCI High-Res Camera)
5. NEMA4X enclosure and Data Collection Platform that includes data logger and data collection software compatible with Items 1-4.
Other vendors (Hach-Hydromet) can offer similar solutions that partially meet the requirements of this sole source purchase but only YSI/Xylem can offer the complete, intergrated system

soltuion that meets all the specific technical and compatibility requirements of this purchase. YSI/Xylem will also offer support for integration of instrumentation, programming of the datalogger, and system testing.

CHECK & FILL IN ALL APPLICABLE BLANKS BELOW

☒ The requested material or service represents the minimum requirements of the government.

☒ The material/service must be compatible in all aspects (form, fit and function) with existing systems presently installed/performing. Describe the equipment/function you have now and how the new item/service must coordinate, connect, or interface with the existing system.

The USNA Oceanography Department currently operates YSI EXO Series Water Quality Monitoring sondes and sensors as well as Vaisala Meteorological Sensors. The proposed YSI/Xylem system provides a single-vendor system solution of instrumentation and equipment that will be well-suited for installation in the Hendrix Oceanographic Laboratory (footprint, power, maintenance) and is compatible with existing sensors (YSI EXO1 and EXO2) currently being used by the USNA Oceanography Department. Data collected with YSI/Xylem insturmenation is compatibel with other OTS software pakages at USNA

☐ A patent, copyright or proprietary data limits competition. The proprietary data is:

☐ These are "direct replacements" parts/components for existing equipment.

☐ Other information to support a sole source / name brand buy: